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ABSTRACT

This study examined the effects of early educational experiences on a group of inner-city children as they approached the transition to junior high school. Data on 249 sixth graders enrolled in 67 schools in a large urban school district were used in the study. The sample, about 62 percent of which was female, was 96 percent African American; 76 percent of the students qualified for subsidized lunch based upon low family income. A standardized measure of academic achievement was analyzed for the impact of preschool attendance, preschool model, kindergarten model, sex, and interaction between the variables. No significant differences were found in achievement between students who attended preschool prior to entering kindergarten and those who did not. The results indicated that sixth grade academic achievement was enhanced by early learning experiences that emphasized socioemotional development over academic preparation. This finding was particularly strong for males. While reading appeared to be the area of achievement most broadly affected by kindergarten experiences, boys' overall achievement in sixth grade was consistently higher if kindergarten teachers had nurtured early social development. (Contains 11 references.) (MDM)

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Differential Impact of Preschool Models on Achievement of Inner-City Children

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Abstract

Enduring affects of differential early educational experiences were examined in a group of inner-city adolescents as they approached the transition to junior high school. A standardized measure of sixth grade student achievement was analyzed for impact of preschool attendance, preschool model, kindergarten model, sex, and interaction between variables. Results indicated that academic achievement was enhanced by early learning experiences that emphasized socioemotional development over academic preparation. This finding was particularly strong for inner-city males. While reading appeared to be the area of achievement which was most broadly affected by kindergarten experiences, boy's overall achievement in sixth grade was consistently higher if their kindergarten teachers had nurtured early social development. Results parallel those of Miller and Bizzell (1984) who reported especially negative affects of earlier didactic approaches for boys. These findings have important implications for an inner-city school system in which boys are at-increased-risk for school failure.

Differential Impact of Preschool Models on Achievement of Inner-City Children

Although research supports the benefits of quality early education programs for children from low-income families (e.g., Lazar, Darlington, Murray, Royce, & Snipper, 1982), not all curriculum models currently in use would be considered developmentally appropriate, and some experts (e.g., Elkind, 1986; Zigler, 1987) fear inappropriate methods may be detrimental to future learning motivation. Furthermore, longitudinal studies by Schweinhart, Weikart, and Larner (1986) and Miller and Bizzell (1984) found preschool didactic models had long-term negative effects on adolescent social behavior and school achievement. It can no longer be assumed that any preschool curriculum will achieve positive results and research efforts to find more effective matches between curriculum and child characteristics are needed (Powell, 1987).

The present research was a follow-up study of children from a large urban school district that had widely implemented public preschool. Earlier findings had identified differential affects of prekindergarten (PK) and kindergarten (K) models on student achievement (e.g., Marcon, 1992, 1993, 1994, 1995). As children approached the transition to junior high school, academic achievement was again examined for enduring affects of early educational experiences.

Method

A total of 249 children (mean age = 143.2 mos) enrolled in 67 schools were studied. Prior to entering first grade, 78% of the sample attended both PK and K, while the remaining 22% served as same-sex, matched K-only controls. The sample was 96%

African American and 62% female. Most children (76%) qualified for subsidized lunch based upon low family income and 62% lived in single parent homes. Since first studied, 44% had moved to another school and 24% had been retained prior to third grade.

Three different PK models and two different K models were previously identified using cluster analysis of a survey measuring teacher beliefs and practices (Marcon, 1988). At the PK level, Model CI teachers represented an active, *child-initiated* approach to early learning; Model AD teachers ran more didactic, *academically-directed* programs with direct teacher instruction; and Model M teachers fell in-between the other two opposing models and endorsed more *middle-of-the-road* beliefs and practices. At the K level, Model ModAcK teachers endorsed *moderately academic* kindergartens but believed academic preparation was a more important goal of K than socioemotional development; and Model ModAcK/SE teachers were also moderately academic in their approach, but valued *socioemotional* development as a goal of kindergarten.

A standardized measure of sixth grade student achievement (Comprehensive Test of Basic Skills - CTBS) was analyzed for affects of PK attendance, PK model, K model, sex, and interaction between variables. Analysis of covariance (covariate: eligibility for subsidized lunch) was used to control for possible economic differences between children.

Results

No significant differences were found in CTBS standardized scores of children who attended PK prior to entering kindergarten (PK group) and K-only controls. The only difference between PK models was found in science achievement [F (2, 206) = 3.21,

$p < .05$], with Duncan's post hoc testing indicating Model M children ($M = 51.61$) scored significantly higher ($p < .05$) than either Model CI ($M = 45.44$) or Model AD ($M = 45.24$).

Kindergarten Model

As seen in Table 1, differences in sixth grade CTBS scores attributable to K model were found. PK children who had attended socioemotional kindergartens (Model ModAcK/SE) scored higher in all areas measured except math computation compared to ModAcK peers whose kindergarten experience had emphasized academics. Significant differences and statistical trends were found in total reading scores [$F (1, 128) = 5.69$, $p < .01$], reading vocabulary [$F (1, 127) = 6.70$, $p < .01$], reading comprehension [$F (1, 127) = 3.37$, $p = .06$], spelling [$F (1, 128) = 2.77$, $p = .09$], science [$F (1, 129) = 6.02$, $p < .01$], and social studies [$F (1, 126) = 3.40$, $p = .06$]. For K-only children ModAcK/SE was also associated with higher CTBS scores in all but three areas (total language, language expression, science). However, none of the observed K-only differences were statistically significant for kindergarten model.

Insert Table 1 about here

Sex Differences

While no sex differences in achievement were found for PK children, K-only boys outscored girls on all CTBS measures except language mechanics. These differences were

statistically significant for total reading scores [$F(1, 48) = 5.90$, $p < .05$], reading vocabulary [$F(1, 47) = 5.13$, $p < .05$], reading comprehension [$F(1, 47) = 4.54$, $p < .05$], and math concepts [$F(1, 48) = 4.91$, $p < .05$]. Statistical trends were noted for spelling ($p = .08$), total math ($p = .09$), total battery ($p = .09$), reference skills ($p = .09$), and science ($p = .06$).

Model by Sex Interactions

Although no prekindergarten model by sex interactions were found, kindergarten model by sex interactions were identified (see Table 1). Both PK and K-only boys who attended socioemotional kindergartens (ModAcK/SE) scored higher on all sixth grade CTBS measures than did ModAcK boys. The reverse was less consistently true for girls (K-only: ModAcK higher in all areas except social studies; PK: ModAcK higher in 7 of 14 areas). For PK children, interactions were statistically significant for sixth grade math computation [$F(1, 129) = 4.73$, $p < .05$] and total battery scores [$F(1, 128) = 4.02$, $p < .05$]. Interactive trends were noted for PK children's sixth grade total language ($p = .07$), language expression ($p = .09$), science ($p = .10$), social studies ($p = .07$), and K-only children's sixth grade reading vocabulary ($p = .07$).

Discussion

Sixth grade achievement was enhanced by early learning experiences that emphasized socioemotional development over academic preparation. This finding was particularly strong for inner-city males. While reading appeared to be the area of achievement which was most broadly affected by kindergarten experiences, boys' overall

achievement in sixth grade was consistently higher if their kindergarten teachers had nurtured early social development. These results parallel those of Miller and Bizzell (1984) who reported especially negative affects of earlier didactic approaches for boys. Furthermore, these current findings have important implications for an inner-city school system in which boys are at-increased-risk for school failure (Marcon, 1994). Although girls in this study may have adapted more readily to early academic demands, boys appeared to need an additional year of nurturing provided by ModAcK/SE kindergartens. As children move into secondary education it will be interesting to see whether the nurturing kindergarten experience continues to inoculate boys against the risk of dropping out. This study will continue to provide policy makers with the type of data needed to distinguish between curriculum options for young children.

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Table 1

Sixth Grade CTBS Achievement Test Scores (Standardized) Reported by Kindergarten Model and Sex for Children who did and did not Attend Pre-Kindergarten (Means Adjusted for SES Covariate)

		Attended Pre-Kindergarten			Attended Kindergarten Only		
		ModAcK/SE	ModAcK		Mod AcK/SE	Mod AcK	
Total Reading	F	58.57	52.15	a**	42.99	46.79	b*
	M	57.22	46.64		64.44	53.57	
Vocabulary	F	56.98	52.37	a**	45.37	46.33	b*, c+
	M	60.22	46.05		63.45	54.72	
Comprehension	F	58.75	51.75	a+	41.24	50.75	b*
	M	54.24	47.47		64.26	52.24	
Total Language	F	53.54	58.89	c+	52.56	57.99	
	M	58.61	50.77		58.45	52.99	
Spelling	F	60.99	60.60	a+	52.75	57.70	b+
	M	63.67	52.74		68.04	61.32	
Language Mechanics	F	55.66	58.94		58.30	61.14	
	M	57.80	51.35		59.14	53.37	
Language Expression	F	49.73	54.05	c+	42.99	50.78	
	M	54.78	47.24		54.56	49.78	
Total Math	F	56.11	60.09		52.32	56.22	b+
	M	62.16	53.90		68.21	61.18	
Math Computation	F	32.65	48.33	c*	58.35	61.39	
	M	53.42	42.21		66.60	63.50	
Math Concepts & Application	F	50.37	53.91		46.93	49.68	b*
	M	57.11	49.34		65.38	56.57	
Total Battery	F	54.63	57.40	c*	47.76	54.02	b+
	M	62.11	50.08		64.49	56.34	
Reference Skills	F	59.16	58.01		50.03	55.12	b+
	M	55.66	52.24		66.04	58.17	
Science	F	50.48	47.37	a**, c+	38.96	48.36	b+
	M	59.45	44.66		58.16	50.80	
Social Studies	F	53.88	53.60	a+, c+	49.09	48.24	
	M	59.38	47.62		61.86	48.52	

a = model differences; b = sex differences; c = model x sex interactions

** $p < .01$ * $p < .05$ + $p \leq .10$